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ABSTRACT

This manual discusses major differences between academic and commercial educational research (CER) and provides suggestions to help researchers who want to conduct CER. The paper is based on the experiences of the TAFE National Center for Research and Development Ltd in Leabrook (Australia). Focus is on describing how to apply for grants and how to manage CER projects. Topics include: steps involved in making a submission or proposal to conduct CER, the research methodology, budgeting and scheduling the research project, establishment of project committees, the politics of research, and outcomes of research. CER is client-oriented and has hefty constraints placed upon it, whereas academic educational research is researcher-oriented and methodology-driven and has fewer constraints. Determining what CER is available can be a time-consuming activity, especially for persons just starting to conduct this kind of research. Therefore, guidelines for writing submissions that show the prospective client that the researcher is knowledgeable, experienced, and competent are provided. CER is intensely political. Commercial researchers, who are usually under pressure to complete their work quickly, are cautioned to not neglect good research and business practices. Accurate budgeting and scheduling, and a properly balanced project committee are essential for the successful implementation of CER. Committees should give advice and help in conducting the research, and committee members have an important political role. Good communication can help overcome some problems that arise in the area of politics of research. A model submission is provided. (RLC)

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Managing Commercial Educational Research

William C. Hall

How to apply for grants and how to manage the research

2

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MANAGING COMMERCIAL EDUCATIONAL RESEARCH

WILLIAM C. HALL

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A model submission

ACKNOWLEDGEMENTS

The TAFE National Centre for Research and Development has two broad areas of activity - to undertake and encourage research and development projects that are of national significance to TAFE, and to disseminate information on research and development in TAFE. This publication covers both areas; and those people who have contributed to both areas in the Centre's day-to-day activities have helped in the development of the book. These people include Centre research staff, librarians and support staff.

USING THIS BOOK

The book may be used in three main ways. First, it may be read right through in order to get a feeling for commercial educational research. Those just interested in 'how-to-do-it' could skip Chapter One (although you are not encouraged to do this!)

Second, the book may be used as an in-service workshop manual (remember, however, it is copyright material). Third, it may be used as a guide when preparing submissions. To assist with both of these last two uses, blank pages for notes have been provided.

INTRODUCTION

Commercial educational research is client orientated and outcomes driven. It is applied, having a practical problem to solve. Such research is not new. Many objective tests were produced in the 1930s specifically for use in industry and commerce. Research into the development and use of those tests was conducted.

Industrial trainers have sometimes conducted educational research. For example, they have developed and refined training packages and have experimented with psychological tests.

However, commercial educational research has received a tremendous boost during the past few years, partly because of the Commonwealth Government's strong commitment to training, partly because of industry and award restructuring, and partly because academic educational research has had much of its direct funding dropped.

In this book I am not critical of academic educational research: it matters that good, academic research should continue. However, there are important differences between the two approaches (academic and commercial), and this book attempts to point out these differences. The book's main intention is to help those who want to carry out commercial educational research. It is based on the experiences of the TAFE National Centre for Research and Development Ltd. and so examples are drawn from the Centre's work.

Rarely is there a 'best' way to do anything. Therefore, readers should not use this book as the blueprint for their planning or management. However, the book should (at the very least) start people thinking about the way they do educational research.

1. ACADEMIC OR COMMERCIAL?

1.1 Introduction

Educational research used to be a reasonably straightforward, academic pursuit. The results of educational research were usually long-term in their effects, although researchers often expressed concern that their work seemed to have little impact.

Educational research used to follow a set pattern. First the problem would be defined; then the literature would be reviewed; then the methodology would discuss techniques of measurement and the sampling procedures employed; data were collected and analyzed; and, finally, there would be the interpretation of the findings followed by a respectable list of references. Constraints, such as a budget or a timetable, were usually absent. The notion of a 'client' was foreign to most researchers. Indeed, outside 'interference' was likely to mess up the study and remove its 'objectivity'.

This approach to educational research was shaken (just a little) by the introduction of educational 'evaluation'. However, the impartiality of the evaluator, with the client being regarded merely as the person who paid for the 'research', ensured the purity of the endeavour. I have put 'research' in quotation marks because many educational researchers strongly insisted that evaluation was not research. It was far too directed and far too applied to be taken seriously. However, that point-of-view is now rarely put.

1.2 A new approach

All of that is now changing, partly because large sums of money are available to conduct client-directed educational research. The client, for this research, wants good value for money, knows exactly which problems need to be tackled, usually has a tight schedule, and frequently wants to be closely involved in the exercise through meetings of a steering committee. Let's have an (old-fashioned) model to summarise this new approach.

The model draws together the project's budget, methodology, timetable and expected outcomes. This compares with a traditional academic model which draws together aims, process, outcomes and evaluation.

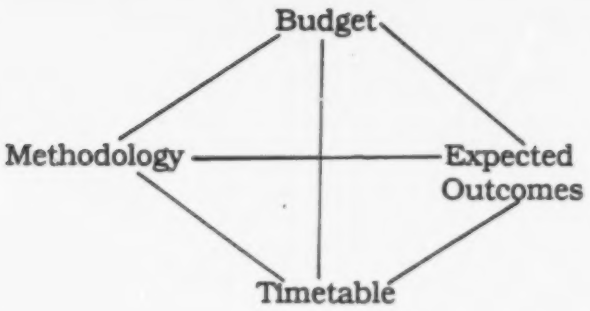


Figure 1

Actually, this model is a bit idealistic because it would be closer to what happens in the early stages to show the model as follows:

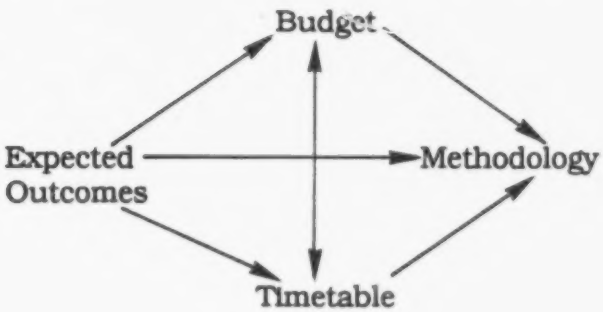


Figure 2

In other words, the methodology is determined by the client's expected outcomes, the amount of money available, and the imposed delivery date. Further, the client decides how the results of the research should be used, including whether the results of the research should be published.

Now, this approach to research, which is called commercial educational research in this publication, is often much more demanding than academic educational research. This is because, although the techniques employed in both kinds of research are frequently similar (or the same), the external constraints are missing in academic educational research. These external constraints

worry some researchers. Indeed, I know of one academic research group which turned down a $35,000 educational research project because it could not accept that the client should decide whether, when and how the research should be published. I am certainly not being critical of their decision; they took an academic stand, not a commercial one.

The terms 'academic' and 'commercial' have been used rather than 'pure' and 'applied'. Much academic research is applied; although little commercial is pure.

Let's have some definitions at this stage. Academic educational research is researcher-orientated and methodology-driven. Commercial education research is client-orientated and outcomes driven. Pure research does not have a practical problem to solve, whereas applied research has the solving of a practical problem as its main aim. Some might find the following figure helpful. The shaded area is the concern of this publication.

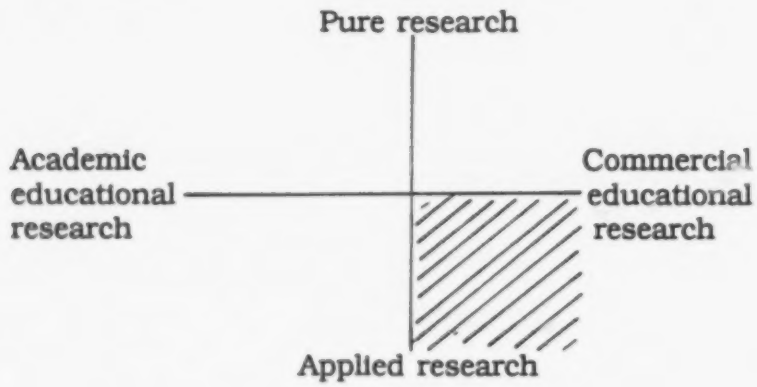


Figure 3

(For those who would like to add a third dimension, experience - experiment may be included.)

1.3 Main differences

Some of the differences between academic and commercial educational research are summarised in the table. Before making the comparison, one extremely important common feature must be emphasised: the importance of quality. The commercial educational researcher is just as concerned to achieve high quality as the academic researcher.

TABLE: A comparison between academic and commercial research

ACADEMIC	COMMERCIAL
Researcher-orientated	Client-orientated
Methodology-driven	Outcomes-driven; budget and timetable determined
Theoretical emphasis	Practical emphasis
Validity important; reliability very important	Validity very important; reliability important
Destination open	Destination anticipated
Complete range of techniques employed	Complete range of techniques employed
Medium to long-term in effects	Short-term in effects
Budget a minor consideration	Budget a major consideration
Timetable a minor consideration	Timetable a major consideration
Outcome usually a paper in a refereed journal	Outcome usually a report, sometimes confidential
Credibility easily attained	Credibility difficult to attain
Politics minor	Politics major

The client orientation of commercial educational research has already been described. Put simply: the 'piper calls the tune'. Therefore, the researcher must fit in with the client's needs and so the researcher's activities will be influenced by those needs.

Methodology drives academic research. The 'best' methodological approach is chosen. (Actually, the approach selected in both academic and commercial educational research is often the approach with which the researcher has had most experience and with which the researcher is most comfortable.)

There is little consideration of how long the academic research should take. It takes as long as is necessary. This is in stark

contrast to commercial research which must usually be completed by a fixed date. (In any case, time costs money and any extension could make the research uneconomical.)

Academic research tends to have a theoretical emphasis ('models', 'paradigms'), whereas commercial research is much more practical. This means that there is a greater emphasis on validity in commercial research, although reliability is also important.

Academic researchers frequently approach their work with open minds when considering the direction of the research and, therefore, the results which will be observed. Commercial researchers have a destination in mind. That destination is usually client-determined.

There are considerable dangers in having a destination in mind, which is client-determined. Taken to extremes, this could mean that the "researcher" is merely going to provide (prejudiced) evidence in order to support decisions which the client has already decided will be taken. Such an approach cannot be justified.

Both kinds of research (academic and commercial) use the complete range of techniques. Academic researchers believe that their work generally contributes towards medium to long-term change. Commercial research results are usually short-term in their effects.

Budget is a minor consideration in academic research (although travel and support services are frequently restricted). The work is frequently conducted by a higher education lecturer who is assured of salary regardless of a project's length. (The higher education lecturer is paid a salary, part of which is expected to be devoted to conducting research.) Commercial research must be conducted to a tight budget and, if possible, a profit must be made for the organisation. Therefore, the time schedule is a major consideration for commercial researchers. In order to maintain the schedule, there must be adequate funding from the start.

The outcome of academic research is usually a paper in a refereed journal or a book, whereas commercial researchers produce a report (which is often confidential) for a client. The client decides what should happen to the report.

In commercial educational research, as in academic educational research, credibility matters. However, in academic educational research, credibility at a researcher's level of performance is fairly easily obtained. By that I mean that the plethora of educational research publications cover every level of writing, from refereed journals through to professional association newsletters. Almost any piece of competent academic research can find a niche, and hence the researcher gains credibility at that level. If one publication rejects a paper, then another publication at a different level may accept it. (Obviously a particular house style will have to

be followed.)

Credibility for commercial educational research comes in a quite different way. There are three criteria:

- fulfilment of project brief to the highest quality possible in the time available;
- maintenance of schedule;
- not exceeding the budget.

All three of these (brief, schedule and budget) should be included in the formal agreement.

The most wonderful piece of commercial research can be achieved, but if it does not get completed on time, then credibility suffers. Also, clients do not take kindly to requests for more money when an agreement has been signed (although financial supplementation to allow for price increases is sometimes viewed sympathetically). Sometimes, the client may change or extend the brief during the project, in which case extra funding should be available. The importance of credibility will be picked up in the next chapter.

The politics of commercial educational research are so important that a whole chapter (Chapter 6) has been devoted to the topic. Although higher education politics are well known, they are of a completely different kind to the politics of commercial research, and they rarely affect the research itself (although they can waste a lot of the researcher's time).

1.4 Summary

In this chapter I have distinguished between 'academic' and 'commercial' educational research. Commercial research is client-orientated and has hefty constraints placed upon it, whereas academic research has fewer constraints.

Academic educational research has its important place (it is certainly not being decried) but it is very different in emphasis from commercial educational research. The differences must be understood, if those trained in pure research are hoping to be successful commercial researchers.

2. MAKING A SUBMISSION

2.1 Finding what's available

You can find out about commercial projects in five ways:

- the client asks if you would be interested in doing the work;
- a particular project is advertised;
- a general advertisement offering research funding is placed in newspapers;
- someone in the commercial projects network tells you;
- you can make the first move by offering your services.

You will only be approached by a client once credibility has been established. Industry, in particular, does not want to spend time advertising projects and then sorting through applications. That is a bureaucratic process which does not interest them. They want to buy the product at the right price, immediately. For example, the head of personnel of a major manufacturer telephoned me to see if the Centre would be interested in a project; he then came to see me, and within less than ten minutes a $28,000 project was agreed upon (over a handshake). Within that ten minutes the client wanted to know:

- Could we do it?
- How long would it take?
- How much would it cost?

Another client had arranged a meeting of employer and union representatives. After outlining the problems to be tackled, the same three questions were asked. Immediate answers had to be given because they wanted to make an immediate decision (the twelve people present had come from around Australia). Industrial clients do not want to be told that you have to 'discuss the project with colleagues' or that 'the accountant will let you know the cost'. The client wants to buy (usually quickly, because the problem is pressing) and you must be prepared to sell, or else lose the project to someone else. Therefore, the person negotiating on behalf of the

research organisation must be able to make commitments on behalf of the organisation.

I think it only fair to add that quick decisions such as the two I've discribed are exceptional. Most clients will give some advance warning, enabling you to make the necessary calculations and prepare an outline submission.

The second way of finding out what's available is to check advertisements in national newspapers. The Australian and the Financial Review carry advertisements, especially on Wednesdays and Saturdays (for the former) and on Fridays (for the latter). You should telephone the person mentioned in the advertisement, because they will be able to send more detailed information and also provide informal comment. For example, the amount of money available is often not mentioned (either in the advertisement or in the detailed information) and the person will usually tell you the maximum amount the client has in mind. There is no point in spending time developing a detailed submission which requires more money than is available.

General advertisements will tell you that funds are available to finance projects in a particular area (e.g. for the building and construction industry, for rural women, for Aboriginal training) and it is up to you to devise a project within the constraints laid down by the client. It is sensible to discuss which areas are of special interest to the client before making your submission, and also to find out how much money is available for the project.

As with all research, there is a network of individuals and organisations who are involved with commercial projects. These include management consultants, National Industry Training Committees (ITCs), TAFE colleges and higher education commercial sections, large auditing companies, project consultants (frequently senior TAFE administrative staff who have taken early retirement) and those higher education departments which train TAFE teachers. Keeping in contact with some of these groups will lead to you getting information about research. Also, some of them are keen to make joint submissions.

Lastly, you can offer your services to a prospective client. You may have discovered, for example, that an organisation (such as an employer organisation) is considering undertaking a skills survey. A short letter to the organisation at the right time, 'selling' your research expertise, can sometimes lead to being commissioned. What will not work is to send a standard letter to a large number of

organisations making a general offer. What you have to sell must be specific.

The Centre made this mistake in the early days of its External Consulting Division. A glossy brochure and covering letter were sent to the managing directors of the top 50 Australian companies. Two errors were made in doing this. First, the managing directors of such companies do not usually make decisions about commercial educational research. Second, a general letter is useless: a problem (which the company feels must be solved) has to be targeted.

2.2 Writing the submission

Sometimes it is not necessary to write a submission in order to be commissioned to undertake a project. Nevertheless, you should still produce an abridged submission to which both you and the client can formally agree, otherwise when problems arise (and they probably will) you will not have a firm basis for resolving difficulties.

All submissions should consist of:

- aims (of the research);
- methodology proposed;
- anticipated outcomes;
- timetable;
- budget;
- research staff involved;
- appendices (when necessary).

A detailed budget will not be required for most industrial/ commercial clients. They are only interested in the total cost.

Sometimes you may need to include information about your organisation, or department, so that the prospective client gains confidence in your ability to do the work. To save time, standard forms can be developed which may be quickly reproduced, as required.

Each of these submission components is now briefly described.

(Most are then described in detail in later chapters.)

Aims

The aims (or objectives) in your submission will explain succinctly what you plan to achieve. Frequently, the aims are provided by the client as part of the project brief. You may want to suggest an increase in the number of aims, or to rephrase the aims, but these changes should only be made after tentative agreement has been obtained from the client. At the very least you should confirm in your written submission that the aims are achievable (if they have been clearly laid out in the client's brief).

Whilst developing the submission, you may decide that one or two additional aims are possible (at no increase in cost). To include these extra aims is an obvious advantage, because the client is being promised more than had been hoped for. For example, it costs very little to prepare and distribute a newsletter, which will help to achieve a 'dissemination' aim, something frequently forgotten by clients.

Methodology

The methodology (or approach) will describe how you intend to do the research. You should describe the techniques you propose to use, the people who will take part in the research (known as the 'sample') and what you intend to do with the raw results. The links between the methodology and the achievement of the aims should be clear.

For example, you may wish to use a questionnaire in your research, in which case your submission should:

- briefly describe the questionnaire;
- describe the sample (i.e. those who will answer the questionnaire);
- explain how the results will be analysed.

In commercial research, only rarely will it be appropriate to use a randomly selected sample. Usually, the sample will be carefully selected, or will be the whole of an entire group (the population), or be a stratified sample. This is explained in Chapter 3.

Commercial educational research (like academic research) is

sometimes sloppy in its methodology. Samples are not properly drawn; reliability is ignored; gross generalisations are made from small samples; statistical calculations are questionable. Quality matters and very great care is needed to ensure that the pressures of speed and tight budget do not lead to a lowering of standards.

If the research requires large quantities of data to be collected, the client will often request that you provide storage facilities for the data for a number of years (usually 3 - 5 years) after the project's completion. Therefore, you need to carefully store and label boxes of completed questionnaires, computer tapes, records of interviews, etc. You will need to confirm that you are able to provide this service.

Outcomes

Your description of the outcomes will include the final research report, any interim reports and/or newsletters, audio-visual material (such as a video), workshops and other ways of disseminating the findings. The quantities of materials will have to be stipulated. There is a big difference in cost between a single master copy and 1,000 printed reports! Chapter 6 discusses the outcomes in detail.

It is important to be clear which outcomes will be your responsibility (and hence at your expense) and which will be the client's responsibility once the research has been completed. For example, the Centre completed two projects which had additional outcome expenditures of $17,000 (for printing) and almost $90,000 (again for printing), both of which were subject to supplementary agreements. If they had not been funded as 'extras' then we would have had to pay for them. However, the original project submissions were quite clear on 'outcomes' and so the extra funding was readily made available.

Timetable

Chapter 4 covers the timetable (or schedule) in detail. Frequently, the maximum time available is imposed upon the researcher and if you want the work, you must fit in with the client's requirements.

If the proposed schedule is too tight you may do one of four things: do not proceed with the application; ask for more money so that additional staff may be employed; negotiate an extension; revise the methodology.

The tighest schedule I've ever had made the following demands:

- complex 37 question questionnaire (including five 6 x 7 matrices);
- 6,000 questionnaires to a disproportionate stratified random sample of companies across Australia; follow up letters;
- computer program to analyze results and to extrapolate to the whole country;
- five detailed case studies;
- letters requesting information to all tertiary institutions/authorities; analysis of syllabuses;
- national advertising and submissions;
- second, more limited, questionnaire to selected companies;
- two advisory committee meetings.

The whole project from start to production of final, printed report (of over 100 pages) plus microfiche and a summary report had to be completed in nine weeks.

Of course, few projects have such a demanding schedule, but the importance of timetabling and co-ordinating each activity is obvious.

Budget

Chapter 4 describes the budgeting process in detail. In commercial research, many clients will just want a total figure. You should have a daily, commercial rate for these clients. In 1989 the Centre charged $700 per day plus normal travel expenses. This is the bottom end of the market, which (in 1989) was charging up to $2,500 each day plus first class travel expenses. Government departments have a maximum amount they will pay (about $800 including expenses, in 1989) and so the Centre's charges were about right for our kind of research.

When budgeting you must ensure that you cover, at the very least:

- professional salaries plus on-costs;
- support staff salaries plus on-costs;
- consultancies/commissioned work;
- data processing;
- travel and daily allowances;
- cost of project committees (if appropriate);
- printing and photography;
- postage and telephone;
- other standard costs (such as electricity, rent, etc.);
- preparation of final report/material including artwork (if required);
- auditing of final accounts.

Research staff

You should list the project manager and the research team, together with brief information about them. More detailed information (but no more than one page for each person) can be given in the appendices.

By the way, don't refer to 'brief' or 'short' curriculum vitae, because that is tautological!

Appendices

These should include a brief statement about the researchers (qualifications, experience, relevant publications).

You could also include lists of successfully completed, similar research and any brochures about the organisation. At the end of this publication is a copy of the Centre's External Consulting Division brochure which is widely used in preliminary discussions.

The appendix to this publication provides a sample submission. You should read it completely at this stage; and then read each section at the relevant part of this publication.

2.3 What makes a good submission?

This check-list should enable you to make a good submission.

1. Has your organisation been fully described, emphasising its strengths for conducting the research?

2. Have previous, relevant studies conducted by you or your organisation been listed?

3. Are the project aims clearly stated? Do they match closely with the selection criteria? Do they relate clearly to the methodology?

4. Is the proposed methodology clearly outlined?

5. Are the anticipated outcomes stated? Are these outcomes concrete?

6. Is each main stage of the research shown on the schedule?

7. Are all expenses included in the itemised budget?

8. Are all proposed researchers listed, with information about them and their work?

9. Is the submission attractively presented, suitably bound, and printed in sufficient numbers?

10. Have you got (written) institutional support for the submission if this is required?

Check the submission in the Appendix against the questions.

2.4 Presenting the submission

You will need to discover how many copies of the submission are needed by the client. (Remember to make enough for your own

use.) Most clients can see through expensively packaged mediocrity; but some clients will object to three or four typed pages merely stapled in one corner. (The Centre lost one project because of making that mistake. I have always been critical of lavishly produced submissions which contain nothing of substance, and so previously would just produce three or four stapled sheets. I was short-listed, with one other organisation, for a $50,000 project. After the interview I was told that the reason we were unsuccessful was because of the quality of the printed submission.)

It is worth spending time on the submission's presentation: type-face, page design, charts and tables, and binding. Once you have decided on a general format, it is a straightforward matter to make copies of well-produced but inexpensive submissions.

Make sure that your submission arrives on time (a very large number do not) and telephone to ensure that it has reached its destination safely.

2.5 The selection interview

For large projects, short-listed researchers are often interviewed. This is especially true of government-funded projects. The client will usually pay travel expenses (but not necessarily volunteer that information). The interview usually lasts for about one hour. You will be expected to make a short presentation (based on your submission) and then answer any questions. You should try to obtain the composition of the interviewing panel beforehand, so that you can attempt to anticipate and prepare for the sorts of questions they are likely to ask. It is sensible for two of you to attend the interview, if that is possible.

The project selection interview will not differ markedly from other interviews, and so remember -

- important decisions are frequently made by interviewers in the first few minutes (so how you dress, how you greet people, and how you start your presentation, are all very important);

- interviewers expect you to ask one or two reasonably penetrating questions at the end of the presentation;

- all clients want to feel that the researcher understands the relationship that must exist between them whilst, at the same time, having confidence in the researcher's ability and expertise. (If this seems to be like walking a tight-rope - it is!)

Your opinions should be reasonably flexible during the interview (in other words, your original, written, submission should not be the final word). However, you should make it clear that you are capable of conducting the research; don't be tentative or apologetic. If you are completely unable to answer a question, say that you would like time to consider the question further and to provide a written answer within a day or two.

Sometimes it can be helpful for one or two colleagues to simulate an interview a few days before you meet the real panel. Further preparation for the interview should include:

- knowing and understanding the written submission 'inside-out';
- finding out if there have been further research developments since the written application was submitted;
- making overhead transparencies (or handouts) for the 'presentation' part of the interview if this is required. (The presentation should not generally exceed ten minutes.)

If you are unsuccessful at this stage, it is perfectly reasonable for you to ask why your application did not succeed.

2.6 The formal agreement

If you have been successful, a formal agreement will be necessary between you (or your institution) and the funding body. The formal agreement may be a short letter (at one extreme) or a lengthy, formal, contract (at the other extreme). Formal contracts will usually include the following:

Preliminaries: organisations/individuals involved in the agreement;

The grant: amount of grant; when paid; conditions attached to payment(s); breach of contract provisions; auditing requirements;

Signatures: approved signatures and witnesses;

Schedules: detailed information about the project.

Usually, you will receive at least two copies of the agreement, one of which you should keep in a safe place. The other(s) you should return.

2.7 Summary

Finding out what commercial research is available can be a time-consuming activity, especially for someone just starting to do this kind of research. Care should be taken when writing the submission to give the prospective client confidence that you are, indeed, knowledgeable, experienced and competent. The submission should be presented in a business-like format and, if a short-list interview is conducted, you should prepare for this with care.

If you are successful, then read on! If not, try to find out why you were not successful, so that improvements may be made to your next submission.

3. DOING THE RESEARCH: METHODOLOGY

3.1 Literature review

The traditional, academic, literature review serves three main purposes: to prove to other researchers that the author really is familiar with the research area (that is, it helps to establish credibility); to provide a background to the study, frequently lending support to the research being reported; and it helps the researcher to understand the issues being researched.

Many literature reviews (in both academic and commercial research reports) do not stand up to scrutiny. They consist of print-outs of abstracts from searches made by librarians in international databases (such as ERIC) which have had little editing and are loosely strung together by the research report author. It is obvious that the researcher has not read the source material and so resorts to weak commenting along the lines of: 'According to Smith (1984) .....'. There is no critical analysis of Smith (1984), nor even any indication of whether or not the author of the research report even agrees with Smith (1984). Smith (1984) might be a poor piece of work, but if Smith (1984) fits in with the researcher's topic, down goes the reference.

Most commercial research reports do not need lengthy literature reviews. Certainly, you will need to do all necessary background reading, but you have no need to inflict all of that on your reader!

You will be able to discover what other useful work has been done in the following ways:

- database search;
- talking to other researchers;
- talking to the client;
- from your project committee.

Each one of these is now discussed.

Database search

You should discuss your proposed database search with your institution's librarian. A good librarian is an expert who can save you time and money. There are many specialised databases (especially in Europe and North America) which are on-line and so your librarian can carry out searches of these for you. The only snags are, firstly, cost and, secondly, the fact that most of the references will be of no use to you. Therefore, you need to be precise in your requirements (using the correct 'key words') and ruthless in rejecting useless material. North American databases, especially, contain huge numbers of 'papers' which are little more than how-I-did-it essays.

Now that ERIC is available on hard disk, the cost of a search is much reduced. Also, the National TAFE Clearinghouse Information Network issues quarterly floppy disks (which contain information that can be merged with earlier data to provide a consolidated database). If you are going to conduct commercial educational research, an annual subscription to the National TAFE Clearinghouse Information Network is almost essential.

Talking to other researchers

One of the difficulties associated with commercial educational research is that much of the work has never been published or included in a database. Therefore, talking to other researchers is especially important. Discussion can lead to other names being mentioned, and these you can also follow up.

How do you find out about other researchers? One way is to scan journals or professional association newsletters. Authors of articles, members of editorial boards, professional association office bearers, and organisations mentioned in surveys etc., are all possible sources of information. Another way is to advertise, seeking submissions. However this can take a long time, because at least one month should be allowed for submissions to be prepared.

Talking to the client

Clients will have a good idea of the nature of their problems. Their organisations are paying for the research and will (usually) have discussed with others the problems, your capability to solve the problems, and whether other similar work has previously been done. In other words, they may have already set up a network and

so you should take advantage of that. Some members of the network will know of similar studies or of researchers with similar interests.

Project committees

Chapter 5 discusses the role and composition of the project committee. Some members of the committee will be familiar with the area you're working in, or have already done preliminary investigations of their own, or know of overseas studies, or of other work being done within Australia.

Committees should be used as 'sounding boards' for ideas. Embarrassment can be prevented by encouraging committee members to comment on draft materials. Even one or two misplaced words in a report can threaten industrial harmony, and your committee can prevent you from making such an error.

A big mistake by newcomers to commercial educational research is to be cavalier with their advisory committee, assuming that they know little about research. In my experience, those who are interested enough to give up their time for committee meetings have usually collected a great deal of knowledge about the topic being researched. It is the researcher's job to encourage committee members to share that information, not to be intimidated into silence by someone with a Ph.D.!

3.2 Common techniques

In this section I would like to discuss the most common techniques you are likely to use in commercial educational research. These techniques will not be described in detail because there are numerous books readily available which do that. Rather, the use of these techniques in commercial educational research will be discussed.

The techniques covered are:

- questionnaire;
- interview (single and group);
- observation (including diary);
- submissions;

- official documents;
- student assessment.

Questionnaire

Questionnaires are usually used with large samples. It is possible to ask a large number of questions (both objective and open-ended) and to structure the questionnaire so that different parts may be answered by different people. You should decide on the purpose of the questionnaire before starting to write questions. The design of the questionnaire (including layout) is important, and should be organised so that respondents can see which questions (or groups of questions) they should answer, and so that coding can be completed effectively.

Everyone can produce questionnaires! (Or so they think.) But they are wrong - because questionnaires are research tools which demand very great care in their preparation and use.

Consider the following (apparently) simple and straightforward question:

> Did you find the talk and discussion worthwhile?
> YES/NO

There are four errors in the question:

(a) it is a double question (and so you don't know whether the respondent is replying to the 'talk', the 'discussion' or to both);

(b) 'worthwhile' is not defined. (Worthwhile to whom? And for what purpose?);

(c) no instructions for answering are given;

(d) a simple YES/NO answer is unlikely to be possible.

The first thing you must do is to read about questionnaire design. When the draft questionnaire has been produced it should be evaluated by colleagues and the client (and if possible, the project committee). They will usually find something wrong with it. Then it should (if time permits) be tested on a small sample. This small

sample should indicate which questions they do not understand, which are ambiguous etc. In other words, they are evaluating the questionnaire.

If the questionnaire results are to be stored in a computer, then you should code the questionnaire at the design stage, not after it has been administered.

Make sure that you explain why the questionnaire is being administered; give your return address and enclose a pre-paid envelope (if the questionnaire is being mailed back); and include an incentive statement if possible. The incentive offered by the Centre is usually a copy of the project's summary report to all who answer the questionnaire. A free ball-point pen could also be included.

The questionnaire and any covering letter or leaflet should be as attractive as possible. If possible, you should sign letters individually and they should be sent to people, not positions. It is usually necessary to send follow-up letters in order to get a good response rate (and so you should allow for this expense in your budgeting). Response rate is a vexed issue: some maintain that 90% is essential; others that 10% is adequate (depending on sample size). There is no standard percentage: it will depend on how you have obtained your sample, the variables within the sample, and the size of the sample. Section 3.3 gives the main errors to avoid when using questionnaires.

Interview

Interviewing is an expensive technique but can be used to collect valuable information which would not be obtained in other ways. Interviews can be highly formal or highly informal, or somewhere between these two extremes, such as focused interviews, where respondents are guided but also encouraged to answer the questions in an open-ended way.

If expense is a problem, telephone interviewing should be considered. Also, interviewers resident in different States may be used (but they will possibly need training, so that there is consistency in their approach).

A large amount of research into interviewing was conducted in the 1950s. The results of that, and later research showed that interviewing was not a very reliable means of research. However, there are well-known pitfalls to avoid and these are fully discussed in books on interviewing techniques. Many of these books will not

tell you that people are probably suspicious of sound cassette recorders and so you need to get approval for their use; that you should write up your notes immediately after the interview, not leaving them until you feel forced to do them; and that many people will tell you what they think you want to hear (rather than the 'truth').

In commercial educational research, industrial issues are sometimes going to be influenced by the results of your work. Therefore, people will sometimes use an interview to get across a particular point-of-view, so that your report can then be used to their advantage in industrial negotiations. So, do not approach interviews naively, believing that the process is objective. On the contrary, it is highly subjective and frequently grossly biased. On the other hand, it may be the only way of getting everyone's separate 'agenda' out into the open. Section 3.3 lists the main errors to avoid.

Observation

Frequently, 'observing' just meant wandering around a factory (say) and gaining a few impressions. A chat here, a cup of tea there, and the conversation became anecdotal evidence. This sort of approach is rarely useful as a research tool (but it can be a useful 'political' activity). Observations require accompanying techniques, such as a diary, a check list, or an interview schedule. You should decide on the accompanying technique(s) you will use, make sure you are competent to use them, and then set out to collect that information which will enable you to solve the research problems.

Observations can only be used with a fairly small population (they are costly, taking a lot of time) but they can provide information which cannot be obtained in other ways. The technique should be used in tandem with other techniques (such as the questionnaire).

Submissions

Submissions could be invited for two main reasons. Firstly, you may genuinely need to have the information which will be provided in submissions. Secondly, for political reasons it may be essential to receive submissions. Submissions will often be useful for commercial educational research, but very rarely useful in academic educational research.

Submissions allow individuals and organisations to make

statements which they believe you ought to read. This highlights another difference between academic educational research and commercial educational research; commercial research is a highly political activity. This difference is so important that a whole chapter (Chapter 6) is devoted to it.

You will need to provide guidelines on the kind of information required in submissions.

The usual ways to get submissions are to:

- place an advertisement in an appropriate journal or newspaper;
- write to interested organisations;
- be interviewed on radio or television;
- put up notices/posters on appropriate notice boards;
- write editorial for appropriate professional or technical journals.

Make sure you give enough time for the submission to be prepared and give yourself sufficient time to read and (if necessary) follow up a submission.

Official documents

Reading official documents, gaining access to filing cabinets, checking internal memoranda and reading information circulated to employees (including information on notice boards) are all valuable ways of gaining insight. For example, the way a memo is phrased can tell you a lot about management style. (Most middle-level managers know the theory, but many do not put theory into practice.)

Always gain access to official documents whenever you can because they provide unique insight into an organisation. They can provide you with useful background information which will enable you to prepare questionnaires and interview schedules. Official documents will also provide you with statistical information. There are two kinds of statistical information: that prepared for outsiders and that prepared for internal use. Make sure you know which you have been given.

Student assessment

Some commercial research will involve students (for example, apprentices). Assessment results (both on- and off-the-job) can sometimes provide useful information, but not in isolation, because assessment is only one part of the broader picture (of curriculum, teaching, employer support etc.).

Other techniques

There are useful group techniques which you should know about. These include the Delphi technique, DACUM, the search conference, nominal group technique, force field analysis and critical incident technique. If you are going to meet with small or large groups of people, there are techniques you can use which work, rather than wasting time on what nominally passes as a meeting.

3.3 Errors to avoid

The errors to be avoided when the various techniques are used are well documented in research publications. For example, common questionnaire errors include:

- respondents not being able to answer questions;
- respondents not being able to answer honestly;
- questions too complex;
- lack of specificity;
- words used open to a variety of interpretations;
- questions phrased in a biased way, forcing a particular answer;
- material badly designed and badly printed;
- no return name/address given;
- no pre-paid envelope included;
- common courtesies ('please', 'thank you') ignored.

Common interview errors include:

- poor introduction (e.g. giving insufficient background information);

- poor room and seating arrangement;

- inappropriate timing for the respondent;

- no interview questions schedule;

- sidetracking;

- the 'halo' effect;

- the bias of the interviewer; and wide variations between interviewers;

- common courtesies ignored.

If you are not sure about any of these errors, obtain text books which explain them in detail.

What errors are especially common to commercial educational research? First, there are sampling errors. Frequently a random sample from a complete population will not be useful. Often, the whole population can take part (for example, in a training needs analysis for a small group of workers). Alternatively, stratified random samples may be useful. (This is just a fancy title for proportional representation.)

A second error is lack of rigour. Academic educational research, especially psychometric research, is usually extremely rigorous. (The value of psychometric research can sometimes be debated, but the rigour usually cannot.) Commercial educational research is, far too often, sloppy; with 'quick and dirty' being the motto. This cannot be justified.

A third error is to ignore the politics of commercial research (see Chapter 6). Commercial research cannot be solely conducted in an office, or by correspondence. People's lives are usually affected by the results of commercial research and so your work will pose a threat to them. Unless this is recognised (and accommodated in your planning), your work will become impossible.

A fourth error is lack of documentary evidence on agreements which have been reached. Much (initial) agreement is reached over the telephone or at a meeting. It is essential to confirm all such

agreements in writing (keeping a copy of correspondence or meeting notes).

Fifthly, the meaning of 'confidentiality' must be defined, so that all parties are clear about what information has limited circulation, and who may receive copies of the final report.

Lastly, poor communication between researcher and client is a common error (on both sides). For commercial educational research frequent contact by letter and telephone is extremely important (for example, every one to two weeks for a project).

It seems prudent to mention a general methodological error here: that of using one technique only to collect information. You should use two (and, if possible, three) different techniques to collect information on any variable. A matrix can be useful to show your intentions. (See page 10 of the sample submission in the appendix.) Your client might need to be persuaded that the use of more than one technique is not a waste of time and money.

3.4 Summary

Commercial educational researchers are usually under pressure to complete their work quickly. Care must be taken not to neglect good research and business practice under these circumstances.

Commercial educational research is intensely political and so this will affect all aspects of the researcher's activities.

Those who have been trained in academic research have much relearning to do if they are to succeed commercially.

4. DOING THE RESEARCH: BUDGET AND SCHEDULE

4.1 How to budget

A common approach to expenditure is what I term the 'money box' principle. In this approach the researcher just dips into the available funds whenever there is an expense, and hopes that there will be sufficient money for the whole project. That is not an appropriate commercial approach! You must draw up a budget.

Submissions should contain outline budgets only. The main budget lines should be:

Salaries

Research staff
Support staff
On-costs

Equipment

Materials etc.

Printing/stationery
Postage/telephone
Data processing
Advertising

Travel and per diem

Research staff
Other travel

Miscellaneous

Generally, you will be expected to justify the large items of expenditure. For example, you should give level of salary (e.g. lecturer, senior lecturer, clerk etc.) and length of employment on the project. The on-costs are to cover all management fees, accommodation and running expenses; they will range from about 15% to a maximum of 50% of staff salaries, depending on the institution's policy. (One organisation I know charges 75%, but that is exceptional.)

Most grant awarding bodies have strict regulations about purchasing equipment, and who owns the equipment at the end of the project. Rarely is the purchasing of equipment permitted. If it is allowed, at the end of the project it frequently becomes the client's property, or must be sold and the proceeds given to the client.

Large items of postage should be identified (for example, distribution of questionnaires which contain pre-paid envelopes). Travel costs should be justified, especially if an overseas trip is anticipated. (Research grant bodies are especially suspicious of overseas travel, and planned overseas conference attendance is a quick way to get your proposal rejected.)

You will probably need to break down your budget for your organisation's finance department. Every organisation will have different procedures, but all will want to know when income can be expected, and the monthly (or quarterly) anticipated expenditure. Frequently, income can be negotiated for the start of the project, for at least one payment during the project, and the balance on satisfactory completion of the research. The schedule for these payments (together with a definition of 'satisfactory completion') should be included in the contract.

If a Government-sponsored project is for $40,000 over the year, for example, it would be reasonable to receive $10,000 on signing the contract, $10,000 at the end of two (usually agreed) separate stages, and a final payment of $10,000 on satisfactory completion. However, industry/commerce will not normally expect to pay anything until the project is completed. They regard research just like any other commodity to be paid for on receipt of goods.

4.2 Financial statements

Your budget should not be something you have dreamed up in order to justify the grant. Your budget should be a commitment, and you should use it to keep track of expenditure. At the most elementary level, if you have budgeted $5,000 for secretarial support, and if the one-year project has already expended $1,000 in the first month, then the potential for over expenditure is obvious.

Regular (usually monthly) financial statements showing income, monthly expenditure, expenditure to-date and planned expenditure, will be useful to enable you to keep control of your total budget. About half-way through your research you may need to present a revised budget to the funding body, who will need to approve any

changes.

A great deal of trouble can be avoided by ensuring that your original budget is realistic. You should work with others (e.g. your organisation's finance officer) in drawing up the original budget and in comparing your actual expenditure against your anticipated expenditure. Variances should be capable of straightforward explanation.

4.3 Auditing requirements

Either, or both the funding body and your employing body will require that your project expenses be audited. Frequently, an internal audit will be satisfactory for the funding body. An auditor needs to be satisfied that all claimed expenditure has, in fact, occurred; and that all expenditure is in accordance with the regulations of the funding body and the employer. Clearly if (for example) no overseas trip was agreed upon in the original budget, and if you attended an overseas conference at the expense of the project, the auditor would have something to say (and you would probably have to make reimbursement for that expenditure).

All receipts must be kept of proof of payment; time books (properly signed and with payments approved) must be maintained by everyone working on the project; and financial statements must be produced for auditing purposes.

4.4 Saving money

The largest item of expenditure on any budget is usually that of salaries. Therefore, care should be taken over levels of appointment (clearly, a research assistant is cheaper than a senior lecturer) and over length of appointment. At the Centre, we used to appoint seconded or contract researchers for the full length of a project, but found that for many projects such people were not usually required at the beginning or at the end. This now means that two monthly salaries can be saved from a one year project.

It is important to use all staff in the most appropriate way. For example, it is inappropriate for a highly paid researcher to do word processing, or to address and mail envelopes, or to stand for hours next to a photocopying machine. It is easy for people to fill their day with inappropriate activities, instead of achieving their real purpose.

Different organisations have different rules about on-costs. Often,

there can be some flexibility and you should find out about this before submitting a budget.

Other items of major expenditure include data processing and travel/accommodation. If you are unable to use existing software and if nobody within your organisation is able to write programs, then you will have to buy the expertise. Shop around, because prices vary widely. . On the other hand, data inputting is intensely competitive and so prices do not vary too much.

You can save on travel expenses by arranging your programme so that a wide variety of activities can take place during the one visit. This requires careful planning, but can produce considerable savings. Further savings are possible if flexi-fares (and similar discounts) are used. Accommodation booked through the airline is often much cheaper than accommodation you book directly.

Postage is much cheaper by surface mail than by air mail. Standard envelopes should be used (they are cheaper to mail) and for large mailings, pre-sorting will save money. (Leaflets about pre-sorting are available at post offices.) For large mailings, mailing agencies should be used for printing, envelope inserting, addressing and mailing. They are excellent value.

4.5 Planning

One of the main weaknesses of researchers is their frequent inability to plan beyond the next few days! This is most obvious when word processing staff are given large quantities of work, all of which is to be considered urgent (i.e. needed tomorrow), because of deadlines.

It is important to plan the whole project, and to involve everyone who will be affected by that planning, at an early stage. Good communication within the research team and within the organisation is just as important as good communication between the researcher and those researched.

Your submission will contain a timetable. There are many ways of presenting this information, but the approach used in the appendix is useful because it will also serve as a planning guide.

Frequent mistakes made by researchers include not allowing for the following:

. time needed to obtain documents on inter-library loan;

- time to print material (such as questionnaires) and to distribute it;
- word processing time (including checking and correcting drafts);
- data inputting time;
- coding of questionnaires;
- people not dealing with your requests immediately;
- time needed by advisory committee or referees to comment on drafts;
- artwork production time.

Never be optimistic when schedules are produced! Always allow for the longest possible delays, because whenever time is saved it will be invaluable towards the end of the project.

You must always allow for the need to follow up questionnaire distribution with a reminder letter. In general, this will double the length of time you might normally expect someone to answer and return the questionnaire.

Regular, short, research management meetings (say fortnightly for 20 -30 minutes) will help you to maintain your schedule and will help to maintain good communication.

The Centre conducts fortnightly research seminars which last for two hours where there are three items on the agenda:

- general (mainly administrative) matters;
- a major presentation about a current project, which is then vigorously evaluated;
- a minor presentation about a completed project, when any lessons learned are passed on to others.

All three items assist with project planning.

Good planning implies good communication, within the research team and between the team and the client. Without that communication even the best plans will come adrift.

One way of saving time is to let people know well in advance that you will be contacting them for help. For example, if you propose to interview someone in seven weeks time, arrange the interview now, not one week beforehand (because by then the person will probably have arranged other meetings).

If you have many questionnaires to print, discuss details well in advance with the printing company, so that the company can schedule your work. Letting them know about the job when it is ready for printing will usually bring the response that they are too busy and you will have to wait for a week.

Word processing can usually be done in batches. You do not need to have the whole report completed before word processing begins, thus causing further delays.

Another way of saving your own time is to manage it carefully. There are numerous books on time management if you are unfamiliar with the technique.

4.6 Summary

Budgeting and scheduling are both extremely important in commercial educational research. (They are of less importance in academic research.) Therefore you must learn how to budget, learn to work within your budget, and how to plan your work and the work of others, especially if they are working for you in different locations.

5. PROJECT COMMITTEES

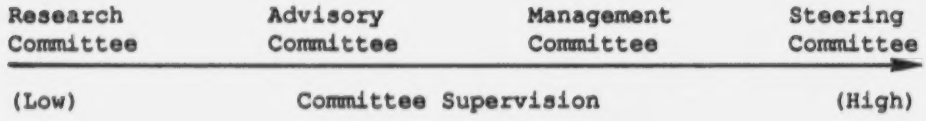
5.1 Purpose and composition of committees

Most commercial research funding bodies require that a project committee be formed. These committees are variously known as:

- project committees
- research committees
- advisory committees
- steering committees
- management committees

and their functions can (as their titles suggest) range from offering general advice through to keeping tight control over the project.

Even before applying for a research grant you should find out about the project committee's likely composition and its terms of reference. It is likely, for example, that many higher education institutions would find it uncomfortable (and maybe impossible) to work at the extreme right of the continuum.



Project committees : degree of supervision

Where there is low supervision by the committee, the committee's terms of reference will include statements like:

- offering advice on research methodology;
- assisting, where appropriate, with the dissemination of research findings.

Whereas at the extreme right (high supervision by the committee) the terms of reference could include statements like:

- approving the budget;
- approving the appointment of staff;
- approving progress payments;
- checking and approving research papers.

The composition of a committee will depend on its purpose. However, all committees will have a research advisory function and a 'political' function. This immediately implies that the following (at least) must be represented on project committees:

- funding body;
- researcher(s) undertaking the project;
- relevant employer body;
- relevant trade union;
- relevant government department (if appropriate).

In other words, the committee should be properly representative and provide sound advice.

All project committees can offer invaluable support, advice and practical help. They should be taken into your confidence and be regarded as your allies in conducting the research.

5.2 Preparing for, and conducting, project meetings

The maximum number of project committee meetings will probably be:

Project length	Number of committee meetings
2 years	5 - 6
1 year	3 - 4
9 months	2 - 3
6 months	2
Less than 6 months	2

There should always be a meeting at the start and towards the close of a project (to discuss the project plan in detail and, finally,

to discuss the draft report). Before the project starts you should meet with a representative of the funding body to agree on the composition of the project committee, frequency of meetings, the person who should chair the meetings, the meeting secretariat (did you budget for this if it is your responsibility?), and the agenda for the first meeting. You should also agree on who should meet the travel and accommodation costs, because a single (national) committee meeting can cost a few thousand dollars.

The agenda for the first meeting should cover the items listed below.

AGENDA

Date, time and place of meeting

1. Welcome.

2. Apologies.

3. Composition and terms of reference of committee.

4. The project
   - aims
   - methodology
   - schedule
   - budget
   - proposed outcomes.

5. Other business.

6. Date of next meeting.

Sometimes, you will be asked to chair the committee. The 'golden rules' for chairing meetings are -

- prepare for the meeting
- make sure the meeting aims are clearly understood by everyone
- ensure the agenda is clear
- encourage participation

- keep the meeting moving along

- summarise the main points throughout

- ensure the tasks arising from the meeting are clearly identified and allocated

- cover the whole agenda without undue haste.

Just because you have obtained prior (informal) agreement from all of the individuals on your project committee, don't assume that the group as a whole will reach similar agreement. Sometimes individuals will behave quite differently in a group than how they behave when alone. Don't even expect an agreement in writing from an individual necessarily to hold good when the whole group meets. And don't necessarily expect all individuals to follow group agreement, because sometimes they will not.

All of this points to the need for close, continuous consultation with both individuals and groups (including the project committee) for the full length of the project.

5.3 Follow-up

Good committee meetings usually produce plenty of work for the researcher! Obviously, the meeting minutes will have to be prepared, checked by the chairperson, and distributed. This whole procedure should take no longer than one week: it is a source of irritation if minutes take much longer to be sent out.

It is wise to meet with all project team members after a committee meeting to discuss who should be responsible for the various activities arising from committee decisions. Remember, the committee is not responsible for detailed management; that is your responsibility. (If the committee wants to get involved in detailed management, you should have a friendly, but frank, word about the problem with the chairperson. If you are chairperson - the solution is in your own hands.)

Consider one recent Centre project advisory committee meeting, which decided:

- to apply for additional funds for printing and distribution of publications;

- to make changes to a video;

- to produce lecturer's notes for use with the video;

- to revise the final draft of the project report.

Clearly, a great deal of work followed the meeting. However, equally clearly, the meeting did not discuss mundane issues but important matters of principle.

5.4 Summary

A properly balanced project committee is essential for the successful conduct of commercial educational research. Not only will the committee serve to give advice but help in conducting the research. Members can have an important 'political' role. Prepare carefully for meetings and ensure immediate follow-up.

6. POLITICS OF RESEARCH

6.1 Networks

All jobs have a political component. (Well, perhaps not inside a monastery.) By 'politics' I mean the techniques and art of dealing with, and persuading people in making decisions. (Politics and power are frequently linked, but this just restricts political activity to managers or those in control.)

Academic researchers are familiar with the politics of their own institutions, but most will be unfamiliar with the politics of commercial educational research. Consider, for example, a typical Centre skills analysis project. This commercial research could involve -

TAFE
local trade union(s)
national trade union(s)
employer(s)
employer bodies
workers
managers
government department(s) - State/Territory and Commonwealth
State/Territory and national industry training committee(s)
State/Territory and government training authorities
professional bodies
registration authorities
researchers.

Every one of these has its own network. (And now the term 'network' has been introduced, which is one of the few pieces of recent jargon which is useful because it nicely describes the structure.) You will need to find out about these networks and ensure that they are kept fully informed about your research, involving them when appropriate.

Unfortunately, the network representative will not always be the most appropriate person to keep that network informed; indeed, occasionally it might even be the wrong person! This is because there are both formal and informal networks.

The Centre had an example of this a few years ago. The official network, including its leaders, were supportive of the Centre, whereas part of the unofficial network was not because of a misunderstanding which had arisen. The misunderstanding had been cleared up officially, but not unofficially! (This might sound trivial. It was not. It almost prevented a project being awarded to the Centre and created problems throughout the project.)

An important network for you to get into as quickly as possible is that consisting of researchers who are conducting similar studies. The national TAFE database (located at the Centre) may give you some links.

6.2 Communication

Communicating with members of the various networks is an important part of the process of commercial educational research. The key members should be visited, because they will be able to give you much important information (which they may not have been willing to write about). You should go to them with an agenda you wish to discuss; and they will want to discuss certain things with you.

You should write and/or telephone others in the network. Some, of course, will become members of your project committee. Don't underestimate the time it will take to establish these contacts; and don't underestimate the much greater time it will take to sort out problems if you don't establish these initial contacts!

Once contact has been established, it is important to maintain it. Individual letters sent at regular intervals will help. (Word processing now enables this to be done quite easily.)

Interim project reports, widely distributed, can be a useful approach to communication. Newsletters and brochures distributed during the project's life are also useful. However, take care not to make them too glossy. The Centre produced a 'quality' brochure for its Quality project (using gold and black) and we were criticised for having too much money to spend! (In fact, the brochure cost about the same as a standard handout, but the effect had clearly back-fired.)

Articles written for the (relevant) trade press get a wide readership and conferences are often on the lookout for speakers.

There is no better way to communicate than by visiting someone for

a brief meeting. If you can do this (for key people) at intervals throughout the project, then many problems will be overcome.

The draft report should be circulated for comment to as wide a group as possible. There are some political, as well as research reasons, for doing this.

6.3 Problems and solutions

The most frequent problems are

- people believing they are uninformed;
- rumours, usually the destructive kind;
- deliberate blocking of the research;
- research errors.

The last of these will not be covered (it is not a 'political' problem but does point to the need for quality control during a project).

The issue of communication was covered in the last section. Rumours are much more difficult to deal with, and often you will be the last person to hear about them. Openness, good communication, and the ability to deal with rumours as soon as they become known to you, are all recommended. Rumours expressing doubts about the 'quality' of work are especially difficult to counter.

The deliberate blocking of research is also a difficult problem to handle. The blocking is usually covert, by those who believe that they may have something to lose when the results of the research are released. The body funding the research is often the best group to deal with this problem. Overt obstructions may take the form of trying to find major faults in the research design, the sample, one of the techniques, etc. (However, this should not be confused with constructive criticism.)

Those organisations and individuals who unsuccessfully applied for research funds are not beyond making negative comments about the successful tenderer. These sorts of remarks are best completely ignored (tempting though it is to respond).

You are involved in a highly political process when conducting applied educational research. You cannot avoid the politics (to do so would, almost certainly, lead to failure). Rather, you should use political structures to help achieve the project's aims. Throughout the book, examples of how this may be achieved are given. For example:

- talking to the client
- the project committee
- submission

are sections also invloving 'politics'.

6.4 Summary

The politics of commercial educational research are even more important than the politics of academic research. Good communication can help to overcome some of the problems which arise. Knowledge and use of appropriate networks will also be important.

7. OUTCOMES

7.1 Preparing the report

Most users of commercial educational research are interested in two sections of the final report only: the executive summary and the recommendations. Therefore, these should be placed at the front of your report. Most people will usually read no further. Nevertheless, you will still have to prepare a full report for the few who will require it (including the funding body), for other researchers, and to give credibility to the summary and recommendations!

Your report will probably contain the following sections. Brief notes on each section follow.

Contents

Abbreviations

Commercial research is notorious for its alphabet soup. A list of abbreviations can be helpful.

Introduction

Gives background to the project, details of funding, acknowledgements, members of project committee. Sometimes the acknowledgements form a separate section at the start of the report.

Recommendations

List recommendations with the page numbers of where they are also printed in the main report. Most reports should contain just a few recommendations. However, check with the funding body - some (especially government departments) do not welcome recommendations.

(Executive) Summary

A two to four page summary of the report is provided.

Background (to the project)

Project aims, the context for the study, brief literature summary.

The research

What you did and how you did it.

Findings

This section can be expanded into separate sections dealing with aspects of the study (e.g. case studies, questionnaire results, interviews, submissions etc.)

Recommendations (and discussion)

Sometimes the recommendations fit more readily into the main body of the report.

References

Sometimes these are annotated.

Appendices

Copies of questionnaires, interview schedules, institutions visited, submission guidelines, lists of those making submissions etc. Sometimes it is cheaper, and more convenient, to produce all appendices on microfiche and place in an envelope which is attached to the inside back cover.

The report should not be written in educational jargon (although the jargon of the particular area under investigation is acceptable and often unnecessary and can help give the research credibility). There are good books available on how to write technical reports and you should read one of these if necessary. Remember, you are not preparing a Ph.D. thesis and you are not trying to impress academic researchers. Your report should be clear and readable by those who have commissioned it.

7.2 Printing/publishing the report

If you have been commissioned to undertake commercial educational research, then the final report belongs to the funding body. They will decide what should happen to the report. In practice, most funding bodies will be happy for you to publish the results of your findings, and often even pay for copies of the whole report to be printed (with, of course, proper acknowledgement). However, if the funding body decides not to distribute the report, and does not give permission for you to publish any of the research,

you must cheerfully accept this because that is their prerogative. It can be embarrassing if others decide to distribute copies of your report. The Centre had one case of this, when a member of the project committee (a union nominee) made large numbers of copies and distributed them widely, prior to the document being placed in the industrial court!

Often, project funds include printing and binding a certain number of copies of the final report. For small print-runs (less than 100) photocopying and plastic spiral binding will be the cheapest method of production. Even so, a reasonably substantial report can still cost over $1,000 to produce, and so you should allow for this in your budget.

7.3 Other outcomes

Although a printed report will usually be the main project outcome, other products may include:

- newsletters;
- workshops;
- videos;
- summary reports/brochures/leaflets;
- conference.

Although it is not appropriate to describe them here, you should always answer the question: What are the most appropriate outcomes for the research? A traditional research report might not always be the answer.

Dissemination is frequently neglected. Throughout major projects you should consider producing newsletters and speaking to groups. At the end of a project it can be helpful to run workshops at major centres. (Workshops are expensive and so you should allow for them in your budgeting.) A well produced brochure (professionally designed and printed) can quickly help to spread information about your research.

Don't get carried away with the thought of producing a video. Unless professionally made, they are invariably of poor quality. You should allow a minimum of $1,000 per minute to make a video.

Don't Expect Praise!

Final payment will confirm that the research has reached a satisfactory conclusion. Academic research results are usually published in refereed journals or as a book. Book reviews and referees' comments will give you some idea of peer reaction to academic research. Presentations at conferences will also provide feedback. Commercial educational research will rarely lead to such activities; and only rarely will clients praise your work. When clients approach you to undertake further work, you will know that they are well satisfied!

7.4 Summary

Presenting the results of your research in the most appropriate format, bearing in mind the audience for whom the results are intended, should be very carefully thought through and properly costed.

APPENDIX

A model submission

This submission was for the project "National Review of TAFE Teacher Preparation and Development". First, a copy of the newspaper advertisement is given; next is a copy of the brief; finally, the actual submission is shown (but not including the Appendices to the submission).

(The submission is entitled 'revised' because of detailed questions raised by the selection committee. Others were also asked to answer similar questions.)

The Centre was the successful tenderer for the project. Negotiations increased the fee by a further $20,500.

THE ADVERTISEMENT

NATIONAL REVIEW OF TRAINING AND DEVELOPMENT NEEDS OF THE TAFE TEACHER WORKFORCE

Demands on Australia's Technical and Further Education (TAFE) systems will increase and change as a result of industry and award restructuring and in the light of technological development. TAFE's teachers are its primary resource; their initial training and subsequent professional development are integral to TAFE's ability to meet those demands.

The Australian Conference of TAFE Directors in partnership with the Department of Employment, Education and Training are seeking suitably qualified consultants to undertake the above project which is in two stages:

- Stage 1: Training needs analysis; skill analysis
- Stage 2: Development of an integrated training and development strategy

A detailed project brief may be obtained by telephoning

(08) 226 3357

Proposals addressed:

Mr Peter Kirby

Chief Executive Officer

Department of Employment and Technical and Further Education

Education Centre

31 Flinders Street, ADELAIDE SA 5000

and marked, Attention: **Mr Robin Ryan,** *must be received by close of business on Friday, October 6, 1989.*

THE PROJECT BRIEF

PROJECT BRIEF

NATIONAL REVIEW OF TAFE TEACHER PREPARATION AND DEVELOPMENT

BACKGROUND

1. A key objective of Government policy over the past few years has been to facilitate structural change, both through appropriate macro-economic policies and, increasingly, through micro-economic reform to enhance the efficiency and flexibility of the economy and progress social justice objectives. Changes in the area of employment, education and training are necessary components of structural adjustment.

2. This has been highlighted in a number of Ministerial statements - Skills for Australia, A Changing Workforce, Industry Training in Australia: The Need for Change and most recently, Improving Australia's Training System. In these the Commonwealth Government has emphasised the need for reforms of our vocational education and training arrangements to enhance the skills of the workforce and thus the process of economic development and structural change.

3. The pressures for such reforms are now immediate and urgent. This is recognised by all governments. The Special Ministerial Conference in April 1989, bringing together Commonwealth and State Ministers from the relevant education and training portfolios, was a major demonstration of the commitment to co-operate to meet the challenge for significant reform to and expansion of Australia's training system.

4. In particular, the award restructuring process carries major implications for Australia's education and training systems:

   - new demands for training and skills development at all levels of the workforce;

   - an increased emphasis on the development of competency standards within training arrangements, including the apprenticeship system which is predominately "time serving";

   - more flexible, broadly-based and modular approaches to training;

   - greater national consistency in training standards and certification arrangements;

   - better articulation between different forms and levels of education and training; and

   - improved access to training for disadvantaged groups.

   Taken together these factors will influence the way technical and further education is organised to deliver training.

5. TAFE is recognised by Governments as having a central role in Australia's vocational training arrangements. As with any education provider, TAFE's major resource is its teachers. If TAFE is to respond appropriately to the challenges flowing from industry and award restructuring it will be necessary to ensure that newly appointed teaching staff are appropriately equipped, and current teaching staff expand their levels of competence, in terms of professional and vocational skills.

6. The selection, initial preparation and subsequent further development of TAFE teachers is a matter for State and Territory Governments. Generally, formal preparation follows recruitment (selection having been made on the basis of vocational skills and experience) and comprises a Diploma of Teaching (TAFE) undertaken by a combination of full-time release and part-time study through a designated higher education institution in each State/Territory. Subsequent professional development is provided in-house and through personal commitment.

7. Against the background of industry and award restructuring, including negotiations in relation to TAFE teachers' own awards, the Commonwealth Department of Employment, Education and Training and the Australian Conference of TAFE Directors are now seeking (a) consultant(s) to undertake a major (staged) project.

TERMS OF REFERENCE

Note: The focus of this study is full-time teachers; clearly much of it will also have relevance for part-time teachers.

STAGE 1

A. Training Needs Analysis

Identify the skills and competencies which will be required by TAFE teachers in the 1990s, having regard to the need for an appropriate balance between skills in each of the following areas:

- teaching and related skills, including those required for:

- new delivery approaches, eg team teaching, modularisation, achieving minimum skill standards;

- new technologies;

- emerging assessment and certification requirements, eg competency, on-job training;

- non-traditional groups of students

  : previously disadvantaged groups increasingly in mainstream programs, eg women and mature age apprentices, Aboriginals;

- education/training guidance and counselling;

- curriculum development;

. extension and upgrading in teacher's own subject (vocational) specialisation;

. management skills, including:

  - educational enterprise management;

  - educational process management (eg self-paced learning, computer assisted learning, team teaching);

  - educational program management (eg program evaluation, trouble-shooting);

. skills relevant to TAFE's broader role as an educational services provider, especially to industry (on a fee-for-service basis):

- industrial relations/workplace organisation awareness;

- communication (negotiation and liaison) skills:

  : including with private providers of education/training;

- training needs analyses supporting curriculum development;

- on and off-the-job training linkages.

B Skills Analysis

Identify the skills and competencies held by the existing (full-time) TAFE teaching workforce, taking into account:

. the content of initial TAFE teacher training;

. the range of existing professional development activities;

. an assessment of the extent to which teachers are already involved in providing training in a competency-based, cross-skilled environment and its implications for their professional skills (it may be that only some teachers currently have this type of involvement);

. an assessment of the extent of understanding among TAFE teachers of the implications for TAFE and TAFE teachers of industry and award restructuring.

STAGE 2 - TAFE TEACHER TRAINING AND DEVELOPMENT STRATEGY

A. Model

Against the background of the present industrial context of award restructuring negotiations for the teaching profession (which will be at different stages in different States/Territories) including:

- incentives and rewards;

- career alternatives to administration (career structures which support initiatives such as "master teacher" and which encourage or force the continued acquisition of higher levels of competence as a normal requirement for individual and group performance).

Develop a strategic model for TAFE teacher training and development, which integrates initial training and later retraining/development. It should address (but not necessarily be confined to):

- the appropriate emphasis to be given to vocational (subject specialisation/cross-skilling) training and updating; and

- appropriate delivery strategies with an emphasis on the needs of the individual teacher:

  - identifying essential and elective elements for successful teaching at various levels (modular approach);

  - multiple/flexible entry and exit points;

  - alternative means of program delivery:

: location of/responsibility for training (TAFE in-house cf higher education);

: maximum articulation;

: recognition of relevant training undertaken outside existing formal mechanisms.

B. Strategy for Existing Teachers

Within the context of the strategic model and emerging industrial realities develop a strategy to equip currently employed teachers with the enhanced skills they require, including the identification of priority areas.

TIMING

. Stage 1 - by March 1990.

. Stage 2 - by end 1990.

MANAGEMENT

The project will be managed by a steering committee chaired by an ACTD member and comprising representatives of:

. DEET

. Teacher union (TAFETA)

. TAFE teacher educator

. Industry

- TAFE - Human resource divisions
  - College management

Formally, the consultant(s) would be under contract to SADTAFE.

COSTS AND FUNDING

It is anticipated that some $200,000-$250,000 will be available for the total project.

Stages 1 and 2 will be jointly funded by DEET and ACTD.

REPORTING

At regular intervals through both stages of the study, the consultants will be required to produce brief written progress reports and present these to the steering committee.

The consultant(s) will be required to produce acceptable written reports at the conclusion of each stage of the study (due within one month of the completion of project work). DEET and ACTD will reserve the right to publish these.

THE SUBMISSION

TAFE NATIONAL CENTRE FOR RESEARCH AND DEVELOPMENT LTD.

REVISED SUBMISSION TO THE
SOUTH AUSTRALIAN DEPARTMENT OF EMPLOYMENT AND TAFE

FOR THE PROJECT

"National Review of TAFE Teacher Preparation and Development"

17th November, 1989

CONTENTS

This submission comprises the following:

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1. Introduction	1
2. The proposed study -	3
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3. Appendices	13

A. Information about the principal researchers

B. List of (relevant) recent studies

C. External Consulting Division

D. Brochure about the National TAFE Clearinghouse.

1. INTRODUCTION

The TAFE National Centre for Research and Development is pleased to submit the following revised proposal for a national review of TAFE teacher preparation and development. It takes into account the revised starting date and the questions raised in correspondence.

The project is timely because of recent government policies, because of award restructuring, because of recent (or proposed) changes to the nine higher education institutions offering TAFE teacher preparation courses, and because of recent research findings - most particularly those projects completed by the TAFE National Centre for Research and Development. Appendix B lists some of these projects.

The list of projects shows that the Centre has been involved in developing the *processes* which will be required in this project as well as conducting research on TAFE teacher (initial) preparation and staff development. It also shows that the Centre has been, and still is, researching and considering many of the issues associated with this project such as the continuing education needs of TAFE teachers, TAFE/industry liaison, skills formation, award restructuring, competency training, training needs analysis, credit for skills acquired on-the-job, performance indicators, TAFE enterprises, social justice issues, and integrating on-the-job and off-the-job learning. This indicates that the Centre would bring to the project a very broadly based knowledge of TAFE nationally and of current issues, as well as all of the necessary research skills.

The Centre would also represent an objective view in this research and can draw information from all of the various interest groups, because it knows the network extremely well.

The project would be administered by the Centre and the Centre is certainly large enough, and keen, to conduct research of this size wholly in-house. However, the Centre would not be averse to some sub-contracting whilst retaining overall research management.

The TAFE National Centre for Research and Development Ltd. is a company owned by the nine Ministers responsible for TAFE (Commonwealth, States and Territories). It is Australia's national vocational education research centre and home of the National TAFE Clearinghouse. The Centre has two broad areas of activity - to undertake and

encourage research and development projects that are of national significance to TAFE, and to disseminate information on research and development in TAFE. The work required in this project closely matches the Centre's aims.

The Centre operates as a team with all research staff contributing to a project. (The minimum involvement is to critically evaluate a project at the Centre's regular research meetings and to comment on draft reports.) Those permanent staff principally involved in conducting research for this project would be:

Dr W. Hall — Project Manager. He wrote the report *"Continuing education needs of TAFE academic staff: Full-time lecturers"* and the report on *"TAFE/industry liaison"*. He was head of an institution which trained TAFE teachers. Earlier this year he represented Australia at the UNESCO convention on technical and vocational education.

Mr G. Hayton — Responsible for training needs analysis and skills analysis. He has undertaken major training needs analyses (including for the building industry, printing industry and metalworking industry) and is the major author of the DEET publications *"Training needs analysis"* and *"Training for Australian industry"*. Recently, he was invited to be a member of NBEET Selection Committee for Innovative Grants.

Mr H. Guthrie — Advising on the training needs analysis and skills analysis and responsible for TAFE teacher training and development strategy and strategy for existing teachers. He has undertaken major evaluation studies, most recently for DEET an evaluation of Regency College, and was a co-author of the DEET's publications mentioned above.

Ms P. Mageean — Assisting with the strategy for existing teachers. She wrote the report *"Continuing education needs of senior college staff"* and is presently preparing a professional development package for TAFE senior academic staff.

The curricula vitae for each of these researchers are given in Appendix A. In addition, it is possible that the Centre will seek a full-time secondment from the South Australian Department of Employment and TAFE to assist with the project.
(The secondment would be negotiated with the Department, if the Centre is the successful tenderer.)

It is assumed that the person seconded from the SA Department of Employment and TAFE will work full-time, for one year, on the project. Centre research staff average commitment for the project's duration would be:

Seconded researcher	-	full-time
W. Hall	-	2 days/week
G. Hayton	-	2 days/week
H. Guthrie	-	(after 1 July, 1990) 2 days/week
P. Mageean	-	1 day week
Research assistant	-	as required
Interstate associates	-	as required.

To summarise: because of its objectivity, its structure, its close links with all TAFE authorities, its previous and present research, its range of skills, its size, its support services (Clearinghouse, data processing and word processing) and the acknowledged quality of its work, the Centre is uniquely placed to undertake the project.

Finally, we guarantee to deliver on time and within budget.

2. THE STUDY

Aims

The Centre considers that the project's aims are achievable within the time frame. In addition, the Centre acknowledges the highly "political" nature of the project and so would suggest the inclusion of "process" aims, so that (as far as practicable) all interested groups have some involvement, thus giving them "ownership" of the findings. Process aims would include:

- keeping all interested groups informed about the progress of the project
- obtaining feedback from interested groups
- disseminating both interview findings and the final results of the project.

The importance of such process aims cannot be over-emphasised. Their achievement will help to determine the success of the project and the extent to which its recommendations are implemented by the TAFE authorities.

Nor do the aims include a consideration of the resource implications behind any new teacher training and retraining proposals that are developed. It is proposed that such a consideration should also be provided as part of the consultancy.

Methodology

Brief notes on the methodology are given. Further details can be provided if required. In general, the project model will be based upon the Centre's past and present research into training needs analysis. The suggested methodology could be modified by negotiation with the project steering committee.

STAGE 1

A. Training needs analysis (skills and competencies required for the 1990s)

The following techniques will be used:

- submissions from interested individuals, groups, organisations and institutions
- literature review
- interviews with experts to identify the main issues, current trends and future requirements
- Delphi survey.

The **Delphi** survey will involve sending a series of questionnaires to representatives of the major stakeholders with recognised expertise in TAFE teacher preparation and development. (Two rounds of questionnaires should be sufficient.) The group will consist of about 80 respondents. (Not all respondents will necessarily answer all parts of the questionnaire.)

The composition of the expert group will be suggested and approved by the steering committee, but should include representatives of institutions responsible for teacher training, industry/commerce groups, TAFE Teachers' Union and all TAFE authorities.

Interviews could be conducted by consultants in other States/Territories.

B. Skills analysis (current skills and competencies)

Five techniques will be used for the analysis:

- organisational knowledge and records
- observation
- interview
- questionnaire (TAFE teacher survey)
- submissions.

Organisation knowledge and records. A document search will be undertaken to identify relevant reports and literature. It will then involve (for example) an analysis of syllabuses of initial TAFE teacher training courses and the content of professional development programmes, information collected from colleges and TAFE head offices as well as from teachers. State and national industry training committees will also be contacted. Relevant research by industry training committees will be examined and extended if appropriate.

Observations will be of a formal and informal kind and will include case studies. **Interviews** will be structured and will include higher education lecturers involved in TAFE teacher preparation courses, TAFE staff involved in teacher preparation courses, TAFE head office staff, principals, heads of schools/departments and teachers. A carefully selected sample will be interviewed, including representatives of industry/commerce and State/ Territory training authorities.

Questionnaires will be sent to a stratified, randomly selected group of about 1000 teachers. Newly appointed teachers will form one stratum. Other questionnaires will be sent to TAFE college principals, heads of schools/departments. The TAFE teacher survey would include a questionnaire pre-test phase. N = 1000 is the gross sample size with a target return rate of over 60% (which is normal for our research). Incentives and follow-ups would be used.

The relationship between the training needs analysis and the skills analysis is summarised in the diagram below. The Delphi questionnaire and the skills analysis questionnaire would have much in common, including the listing of skills and competencies so that direct comparisons may be made.

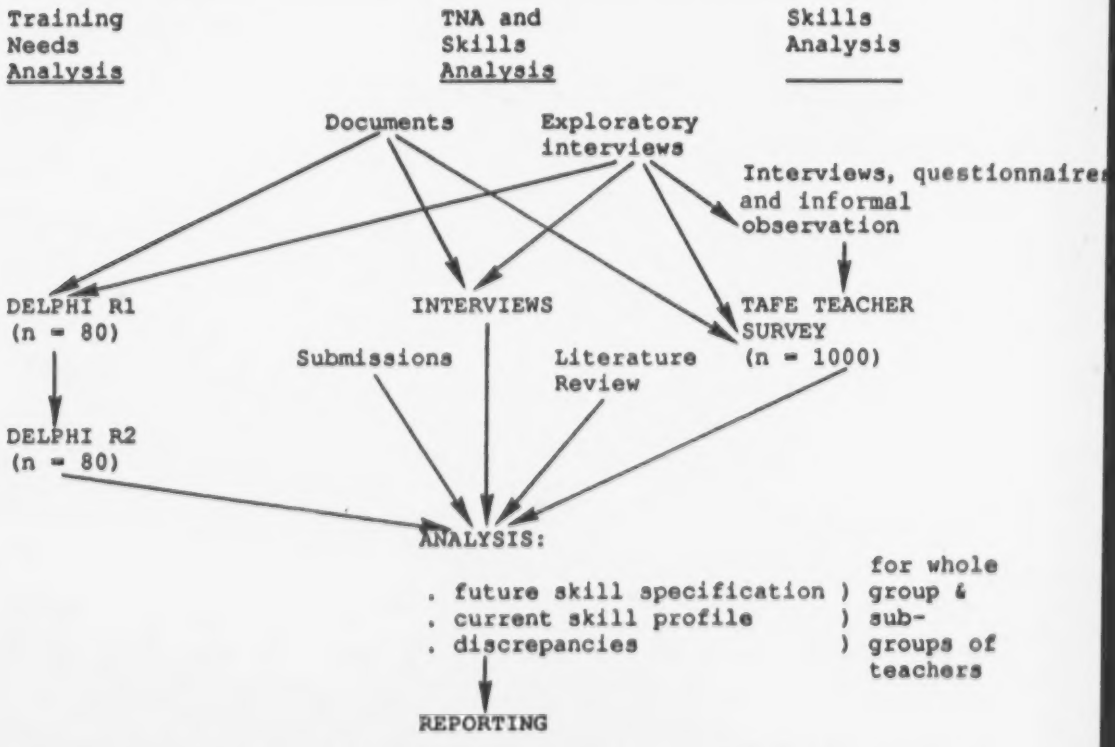
The data sets would be brought together for comparison (and we have budgeted accordingly) so that direct comparisons may be made of present skills with future requirements. Separate analysis of each data set and analysis of the combined data set will be undertaken.

The Delphi survey would be wholly administered and evaluated by the Centre. The questionnaire will also be wholly administered and executed by the Centre.

Some of the interviews will be conducted by consultants and we have allowed for this cost in the budget. A comprehensive interviewers' kit would be developed by the Centre; and interviewers would be briefed by a Centre researcher when he/she visits that state/territory. It is also seen as important for Centre staff to be involved in some of the interstate interviewing.

A Centre strength is that it is a national organisation with close links to all states/territories. It can draw on research expertise in every state/territory; it understands the TAFE "culture"; and it has close links with higher education institutions offering courses for TAFE teachers.

The following flow chart summaries the main Stage 1 (Parts A and B) activities and their sequence:



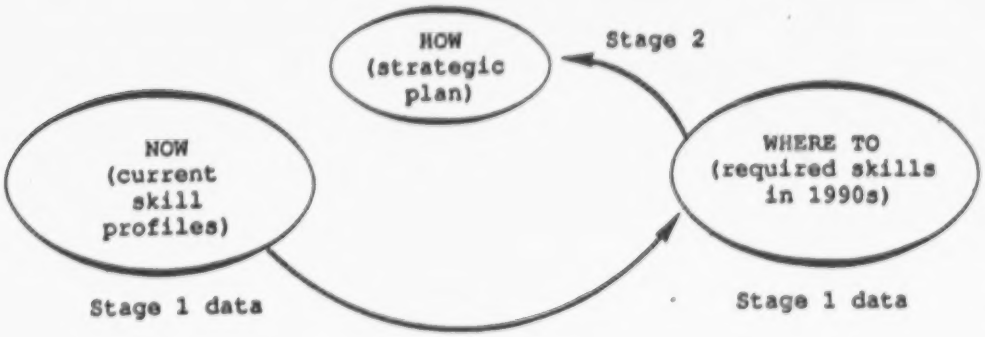
Note: Critical path for time scale is the Delphi survey (round 1 and round 2), and the TAFE teacher survey.

STAGE 2

Stage 2 could overlap with Stage 1 (see timetable, below). However, the results of Stage 1 will be required for most Stage 2 activities (see below).

A. Model

The strategic model would be developed to provide a path from the 'NOW' (current skills and competencies) to the 'WHERE TO' (required skills and competencies in the 1990s), as illustrated.



Five techniques will be used:

- literature review of models of initial and continuing professional education provision for comparable teachers overseas
- submissions from interested individuals, groups, organisations and institutions
- group process (search conference)
- force field analysis

with the information obtained from the skill analysis and training needs analysis in Stage 1. Some of these techniques could be conducted by consultants in other States/Territories.

Interviews will be structured and will include a carefully selected and agreed sample of teachers, heads of schools/departments, principals, students and head office staff. Representatives of TAFE teacher unions, industry/commerce, industry training committees and TAFE teacher training institutions will be included.

The **group process** method will consists of a two day meeting of carefully selected experts. This search conference (involving 25-30 people) would have a short summary of the Stage 1 results. The conference would aim to develop future scenarios of TAFE systems and TAFE teacher skill requirements, then a strategic plan for initial TAFE teacher training and later retraining/development of TAFE teachers.

The **force field analysis** would consider implementation issues, including ways of encouraging positive forces and ways of overcoming negative forces, then select and develop a preferred model.

B. Strategy for existing teachers

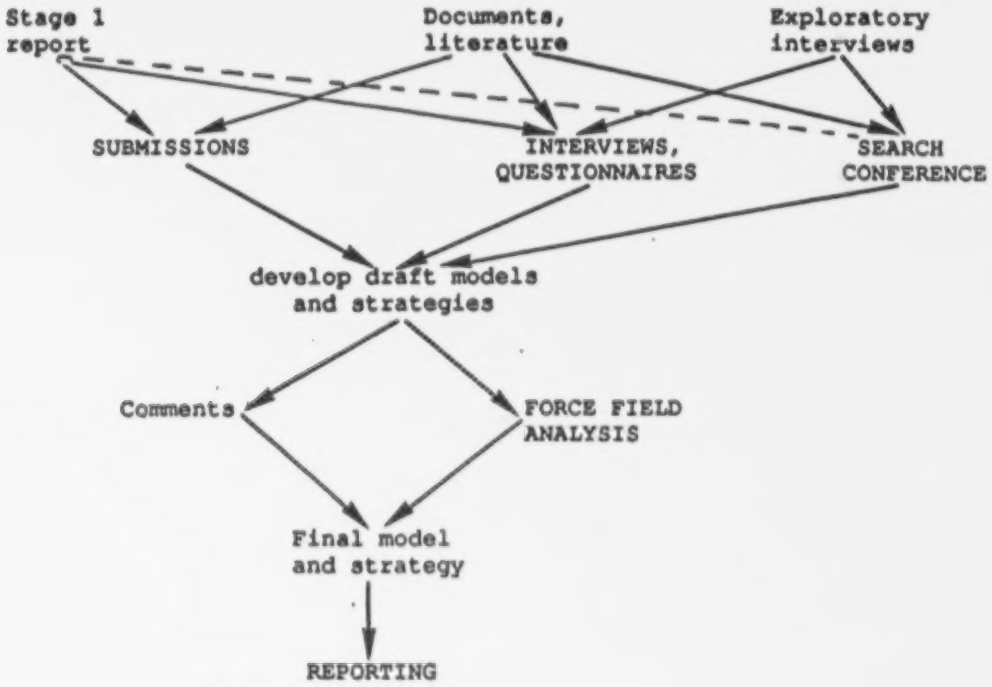
The same five techniques used for Stage 2A would be used for this stage, with the addition of a questionnaire survey of existing TAFE teachers for Stage 2B.

Page 1 of the submission refers to award restructuring, which was intended to include teachers' awards. Awards in each state/territory should include aspects of teacher development and career paths. This information would be relevant to the project, so will be analysed.

Where restructuring discussions are still occurring (when the research is undertaken) the methodology could be affected (e.g. responses by teachers are likely to be skewed). Allowance would be made for this, and consultation with appropriate industrial parties undertaken. (The Centre has had previous experience of conducting research whilst negotiations are proceeding, having successfully completed skills analysis/restructuring studies in, for example, the printing and building industries.)

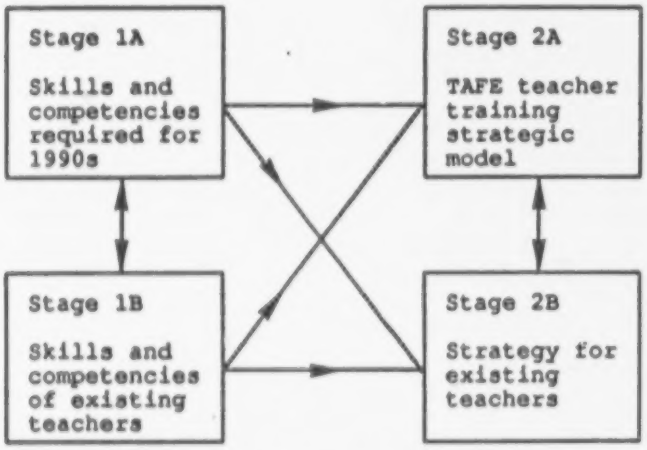
In most cases the project activities for Stage 2B would be integrated with those of Stage 2A. For example, the search conference, after developing a strategic plan for initial TAFE teacher training and later retraining/development (Stage 2A) would then develop a strategy for existing teachers (Stage 2B). The existing teacher strategy could be closely related to the strategy developed in Stage 2A for later retraining/development of new teachers.

The following flow chart summarises the main Stage 2 (parts A and B) activities and their sequence.



Overview of the four stages

The four stages are linked in the following ways:



Whilst it would be preferable (and cheaper) for the Centre to undertake all four stages, it would be possible to undertake any of the four stages separately, but in close consultation with other consultant(s).

A summary of the proposed techniques to be used at the different stages is shown below.

Technique	Stage 1A	1B	2A	2B
Delphi	X			
Submissions	X	(X)	X	X
Records/knowledge	X	X	X	X
Observation		X		
Interviews	X	X	X	X
Questionnaire		X		X
Search conference			X	X
Literature review	X	X	X	X
Force field analysis			X	X

Outcomes

Four main reports will be produced for each of the four components (Stages 1A, 1B, 2A, 2B). Smaller publications dealing with particular issues (sub-sections of the main reports) could also be produced.

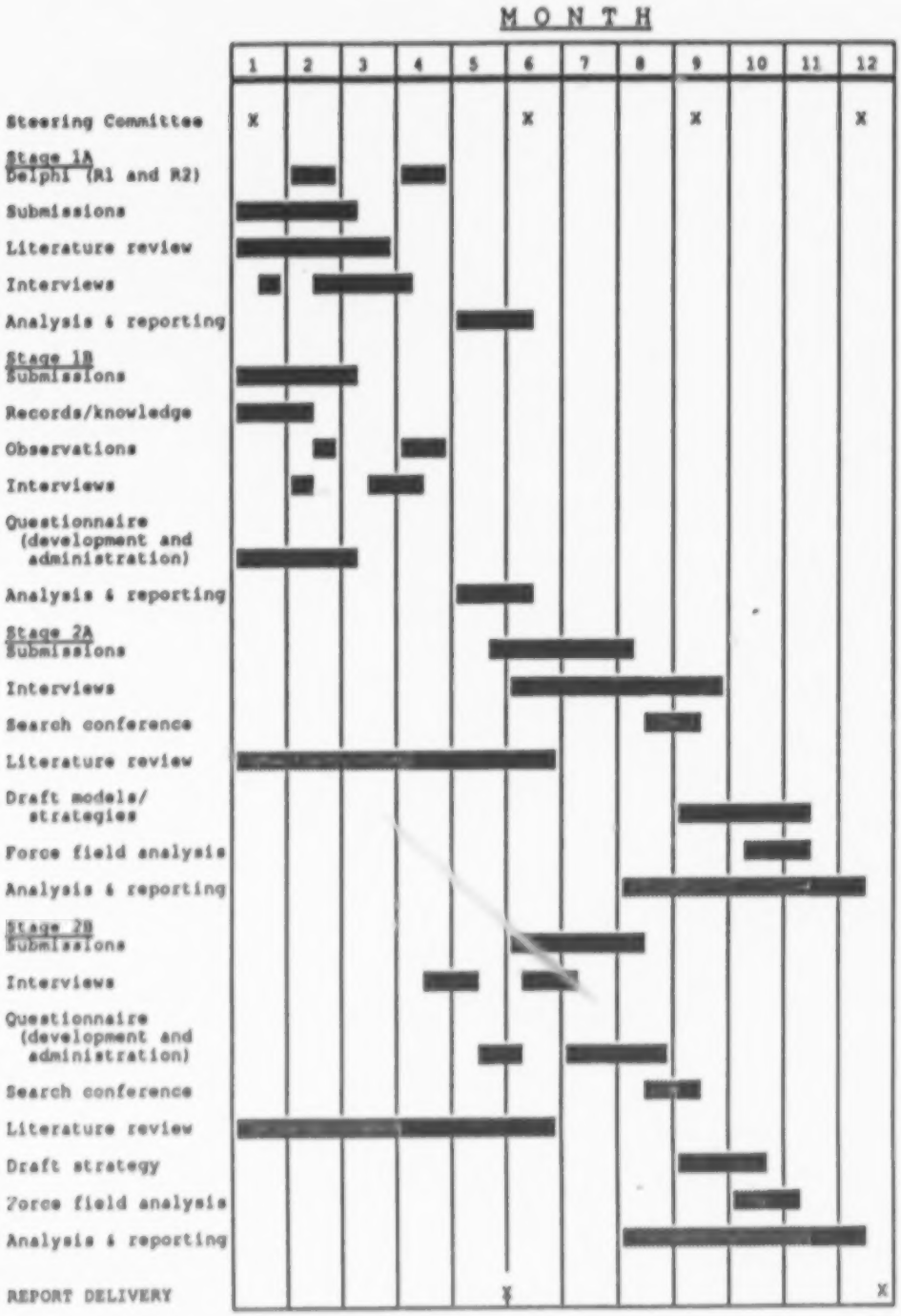
Newsletters will be widely distributed in order to keep all interested groups informed about the progress of the project. Articles would be written for relevant publications, such as the *Australian TAFE Teacher*. As part of its normal workshop programme, and at no cost to the project, the Centre would conduct national workshops/ seminars on issues relevant to the project, if selected to conduct the study. The cost of these would be borne by the Centre and not be a charge on the project.

To summarise, what we have in mind (at this stage) are:

- Stage 1A - report and executive summary
- Stage 1B - " " " "
- Stage 2A - " " " "
- Stage 2B - " " " "
- resource implications paper
- newsletters every two months for the project's duration
- workshops in each capital city on the project outcomes.

Timetable

The main activities only are shown below. The schedule is subject to the agreement of the steering committee. A one year project is assumed.



Clearly, Stages 1A and 1B are closely linked, as are Stages 2A and 2B. It would be preferable for 1A and 1B to be conducted as a single entity and 2A and 2B to be treated as a whole, as indicated by the flow charts presented above under 'methodology'.

Budget

Gross figures are given. A detailed breakdown can be provided if required. The project is costed as four separate parts with an indication of the saving if the whole project is allocated to the Centre or if 1A/B or 2A/B are allocated to the Centre. (For example, one search conference would be held for both 2A and 2B, thus halving the cost.) It is assumed that the cost of printing the final report(s) will be extra and that members of the steering committee will pay their own travel costs.

	1A	1B	2A	2B	Whole Project
Salaries					
Research staff	27,000	32,000	30,000	33,000	110,000
Support staff	3,000	5,000	2,000	3,000	10,000
35% on-costs	10,500	13,000	11,200	12,600	42,000
Materials					
Printing/ stationery	300	1,000	300	1,000	2,300
Postage/ telephone	500	2,500	500	2,500	5,200
Data processing	1,000	2,500	-	1,000	4,500
Travel & per diem					
Research staff	4,000	4,000	4,000	4,000	13,000
Search conference	-	-	15,000	15,000	15,000
Force field analysis	-	-	7,000	7,000	7,000
Advertising	1,000	1,000	1,000	1,000	2,000
TOTAL	47,300	61,000	71,000	80,100	211,000
Parts (A) and (B) together		98,000		129,000	

Thus, the budget summary shows the cost of completing 1A, 1B, 2A and 2B separately; of completing 1A and 1B together, and 2A and 2B together; and the cost of the Centre undertaking the whole project.

3. APPENDICES

A. Information about the principal researchers

B. List of (relevant) recent studies

C. External Consulting Division

D. Brochure about the National TAFE Clearinghouse.

External Consulting Division

TAFE NATIONAL CENTRE FOR RESEARCH AND DEVELOPMENT LTD.

The EXTERNAL CONSULTING DIVISION of the TAFE National Centre for Research and Development Ltd. is a leading Australian organisation available to industry, commerce and government for –

- training needs analysis
- occupational analysis
- reviewing planning processes
- workforce studies
- conducting evaluations
- developing tests.

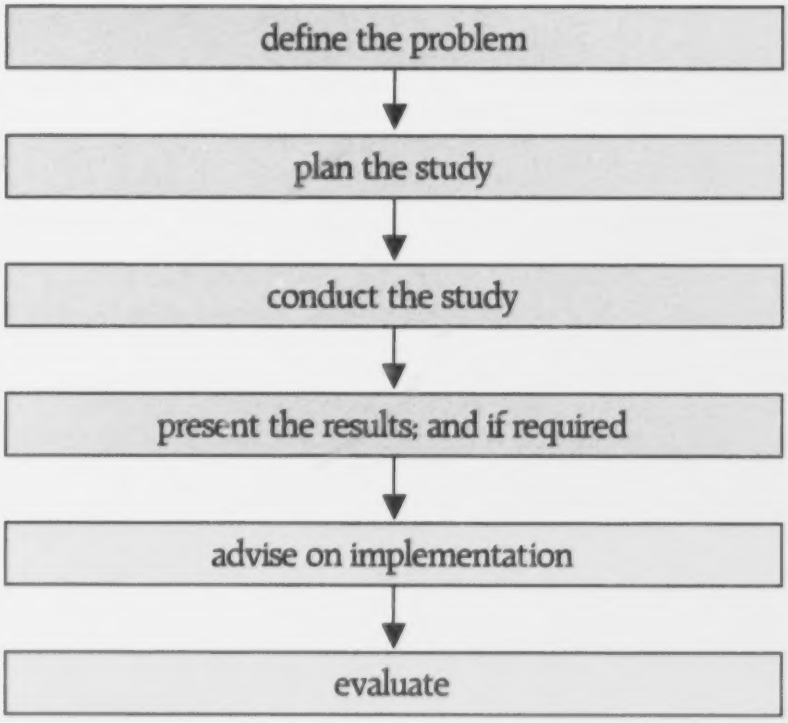
Our team has had wide-ranging experience in commerce, industry and the public sector. The team consists of highly qualified applied researchers, who are in demand nationally and internationally for their expertise. The research team is fully supported by other professionals, making us an organisation to consider when you are thinking of hiring a consultant.

We are a national organisation with strong international links. We are the official Australasian organisation for the ILO regional clearinghouse and we are on-line to the world's major data bases. So, we know what's happening around the world as well as in Australia.

Examples of projects include:

- electronic repairs in the automotive industry
- information technology within traineeships
- manual on training needs analysis methodologies
- training requirements for laser technicians in industry
- drivers' licence tests for heavy vehicles
- training for CIM
- transferable skills across trades
- alternative training approaches in the printing industry
- a comparative analysis of post-trade courses relevant to the oil industry
- occupational clusters of the engineering technical workforce
- TAFE/industry liaison.

One of our general approaches is to:



We guarantee:

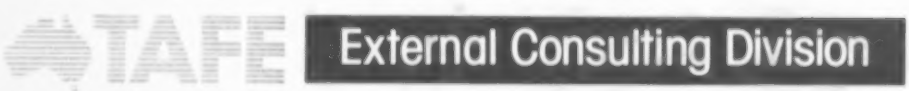
- to deliver on time, within budget;
- to present reports which are written in plain English with practical recommendations for action.

Our fees are highly competitive. We can quote a daily (all inclusive) fee or present a total project budget for your approval. Once agreed, our total cost is fixed. There are no hidden extras.

Previous clients have included:

- Australian Oil Industries Secretariat
- Esso Australia
- The Department of Prime Minister and Cabinet
- National Occupational Health and Safety Commission
- Amalgamated Metal Workers Union
- Metal Trades Industries Association of Australia
- Australasian Society of Engineers
- Commonwealth Department of Employment, Education and Training
- National Road Transport ITC Ltd.
- National Printing ITC Ltd.
- Victorian State Training Board.
- UNESCO
- ILO

If you wish to discuss a project, please contact:



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